

8. Mike

Program Name: Mike.java

Input File: mike.dat

You've been volunteering at the local animal shelter in your free time, in particular, you've been put in charge of the cats. Your boss, Mike, has asked you to put in the order for cat food this month. When you asked him how that's typically done he said that the shelter just orders some massive amount of each food, and rotates through them every day. You, however, have noticed that some cats like certain flavors of cat food and won't even eat others. You've gone through the liberty of finding out which flavors the cats like to eat when they eat, and how much they eat at a time. You've asked your boss if you can order based on this data and he says sure but only if you spend as little money as possible.

Input: The first input line will contain a single value N ($1 \leq N \leq 100$) denoting the number of test cases to follow. Each test case will start with a value M ($1 \leq M \leq 1000$) that denotes the number of cat feedings that follow. The next M lines will be in the form of $T, A,$ and B ($1 \leq A \leq 1000$). T is the hour, minute, and second that this cat will be fed. A is the amount of food in ounces that the cat eats at time T . B is the brand of food that the cat is fed at time T . Each test case will end by enumerating all brands B required to feed all cats. Each brand will have an input line that starts with the brand name and then a list of purchasable cans of food. The list of purchasable food will take the form of $C:W:P$ where C ($1 \leq C \leq 100$) is the number of cans in this package, W ($1 \leq W \leq 1000$) is the weight of each can of food in ounces, and P is the price of this package rounded to the nearest cent.

W is guaranteed to be an integer, and every brand will at least have single one-ounce cans for sale.

Output: Output "Total cost to feed all cats: " followed by the least amount of money you need to spend to feed all the cats their desired foods, rounded to the nearest cent with commas where required.

Note that you cannot have less food than required to feed all cats, but you may have extra.

Sample input:

```
1
10
20:43:13 3.55 super-premium
17:48:10 0.01 premium
13:40:36 4.08 premium
12:11:33 0.58 normal
06:27:30 2.62 super-premium
02:38:30 0.76 premium
12:14:50 1.96 super-premium
11:49:22 3.51 normal
08:42:20 0.30 generic
02:59:08 4.38 generic
normal 1:1:1.14 6:5:15.25 12:3:19.67
generic 1:1:0.98 6:3:12.52 24:5:33.17
premium 1:1:1.99 6:5:25.99 12:3:39.99
super-premium 1:1:5.99 6:5:79.99 12:12:212.12
```

Sample output:

```
Total cost to feed all cats: $74.46
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